

## **Influence of School Plant on Students' Academic Performance in Public Secondary School in Yenagoa Educational Zone of Bayelsa State**

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### **Abstract**

The study is carried out to examine the influence of school plant on students' academic performance in public secondary schools in Yenagoa Educational Zone of Bayelsa State, Nigeria. The study focused on how school plants like Library facilities, school building design, science laboratories as well as recreational facilities influence the academic performance of students in Yenagoa Educational Zone in Bayelsa State. In line with the stated objectives four (4) research questions and four (4) corresponding research hypotheses was used to guide the study. The study utilized the descriptive survey design. The population of the study was one thousand and eighty-one (1081) students in the Yenagoa Educational Zone. The sample size was one hundred and eight students. Experts verified the instrument in measurement and evaluation in the Faculty of Education in the Niger Delta University. The instrument for the study established a reliability average of 0.85. The data for the study was analyzed using frequency count and simple percentage. The study revealed that there is no significant relationship between school plant and student academic performance in public secondary schools in Yenagoa Educational Zone of Bayelsa State. This study has established that library facilities, school building design, science laboratories and recreational facilities positively influence the academic performance of students in Yenagoa Educational Zone. The research work concluded that school plant is very vital for students to perform very well in their academics as such recommended that Government and school administrators should ensure that students are provided with quality school plant for them to perform excellently in their academics.

**Keywords: Influence, School Plant, Students, Academic Performance, Secondary School**

### **Introduction**

It has been globally recognized that education is the bedrock of development. Education forms the basis for technological advancement, skill acquisition, literacy and a very important tool to harness human and material resources. For any nation to get it right and develop rapidly it must ensure that its education is top notch.

Education is very important to every nation in the world, including Nigeria. Education is the process by which aptitudes, capacities and skills are developed. These aptitudes, capacity and skills include physical, social, emotional and intellectual. Because of the importance of

Education all over the world, primary and secondary schools in Bayelsa state in particular and Nigeria in general, have observed incessant rise in yearly enrolment. This has led to the establishment of more schools. Expectedly, this increase in the enrolment rate has heavily weighed on existing educational facilities which has had a big outcome on the educational attainment of students.

According to Okafor (2010), the inadequate conditions of school infrastructure is a significant impediment to the educational performance of secondary school students in Nigeria. Ehiemetolor, (2001) posited that the school plant is an operational input to each educational program. Additionally, Akpan (2003), averred that the environment, equipment, facilities, and buildings comprise the school plant. To ensure the ease and well-being of both faculty and students, contemporary educational institutions necessitate appropriate classrooms, libraries, recreational facilities, assembly halls, standard sickbays, school farms, staff rooms, offices, and more. The quality, state, sufficiency, and pertinence of the educational infrastructure directly influences the level of student engagement in the learning process. The school plant was defined by Mgbodile (2004) as the tangible manifestation of school programmes and activities. In an intentionally planned and regulated setting, its purpose is to facilitate the attainment of educational goals within the institution. It is crucial to perceive the school environment and educational objectives as intricately connected and interdependent to facilitate effective teaching and learning Oyelewe (2010). Beyond shielding students from environmental elements such as sunlight, precipitation, and humidity, school vegetation significantly influences the well-being and security of all individuals present on the school grounds. The primary purpose of the school environment is to facilitate optimal conditions that promote successful instruction and learning. Given the substantial impact that school infrastructure has on the academic achievement of secondary school pupils, its provision, administration, and upkeep must be approached with the utmost seriousness. Post-primary school boards, instructors, and principals are collectively accountable for the efficient management of school facilities. The educator assumes a pivotal role in instructing students on the proper utilisation of school facilities and executing the curriculum. As a consequence of a culture of inadequate maintenance, the majority of secondary schools suffer from, among other things, dilapidated buildings, shattered windows, inadequate or nonexistent recreational facilities, and leaking roofs (Mbotto 2002). This was confirmed by a pilot inspection conducted by visiting a selection of schools in the Yenagoa Educational Zone of Bayelsa State. Regrettably, this predicament is associated with subpar academic performance among students. An examination of public secondary schools in the Yenagoa

Education Zone reveals a pervasive atmosphere of despondency, insufficient resources and apparatus, and a culture of inadequate maintenance. The current body of empirical research in the Yenagoa Educational Zone is insufficient to ascertain the impact of school infrastructure on the scholastic achievement of secondary school students. The purpose of this research was to examine the relation between the availability of school facilities and the impact that it has on the educational performance of students.

### **Statement of the Problem**

The educational sector is face with a couple of problems. This problems ranges from financial, policy, government intervention, political interference, poor infrastructures, lacked of trained teachers etc. These problems have generally affected the academic performance of students. The government, stakeholders, and educational administrators has made concerted effort to solve these mirages of problems. In bid to solve this problem of debilitating student academic performance, the government, institutions and various stake holder has put in efforts to train teachers, increase teachers' salaries, provide computers, employed more teachers, applying of new teaching and counseling strategies etc. Despite all this effort, the situation has not improved as it is observed that attention has not been directed to area of providing adequate and quality school plants. School plants such as library facilities, good school building design, good science laboratory as well as good recreational facilities are not adequately provided. The situation is not different from what is obtainable in secondary schools in Yenagoa Educational Zone of Bayelsa State. it is observed that the academic performance of students within this educational zone is increasing becoming low despite all the efforts made by stakeholders in the educational sector to ameliorate the situation. Against this backdrop that this study is carried out to find out the effect of school plant on educational performance of students in Yenagoa Educational Zone of Bayelsa State.

### **Objective of the Study**

The main objective of the research is to ascertain the influence of school plant on students' academic performance in Yenagoa Educational Zone of Bayelsa State. Specifically, the study intends to:

- 1) Determine the influence of Library Facilities on secondary school students' academic performance in Yenagoa Educational Zone of Bayelsa State.
- 2) Determine the influence of school building design on secondary school students' academic performance in Yenagoa Educational Zone of Bayelsa State.
- 3) Determine the influence of Science Laboratories on secondary school students' academic performance in Yenagoa Educational Zone of Bayelsa State.

- 4) Determine the influence of Recreational Facilities on secondary school students' academic performance in Yenagoa Educational Zone of Bayelsa State.

### **Research Questions**

The following research questions were used to guide the study:

- 1) What is the influence of Library Facility on secondary school students' academic performance?
- 2) What is the influence of School building design on secondary school students' academic performance?
- 3) What is the influence of Science Laboratory on secondary school students' academic performance?
- 4) What is the influence of Recreation Facilities on secondary school students' academic performance?

### **Hypotheses**

The following null hypotheses formulated were tested at 0.05 level of significance.

HO1: There is no significant relationship between Library Facilities and secondary school students' academic performance in Yenagoa Educational Zone.

HO2: There is no significant relationship between school building design and secondary school students' academic performance in Yenagoa Educational Zone.

HO3: There is no significant relationship between Science Laboratory and secondary school students' academic performance in Yenagoa Educational Zone.

HO4: There is no significant relationship between Recreation Facilities and secondary school students' academic performance in Yenagoa Educational Zone.

### **Research Design**

The research utilized descriptive survey design. The descriptive study approach was adopted because it determines the quality of the research and help gather data that will efficiently address the research enquiries.

### **Population of the Study**

The population of this consist of one thousand and eighty-one (1,081) students' in all the public secondary schools in Yenagoa Educational Zone of Bayelsa State. (Bayelsa State Post Primary Schools Board Yenegoa, 2023)

### **Sample and Sampling Technique**

The study utilized the simple random sampling technique to select 108 participants which represent 10% of the entire population.

### Instrument for Data Collection

A sixteen-item research instrument titled the school plant and students' academic performance in secondary schools in Yenagoa Educational Zone of Bayelsa State (SPSAPSSYEZ) was designed for the study. The instrument was designed in two sections: Section A elicit information about the respondents; demographic data. Alternatively, Section B containing sixteen items was used to ascertain the views of the respondents. The instrument was drawn up in for point likert rating scale of Very High Extent (VHE), High Extent (HE), Low Extent (LE) and Very Low Extent (VLE).

### Validity and Reliability of the Instrument

The instrument was validated by two specialists in the Faculty of Education in the Niger Delta University Wilberforce Island Bayelsa State. The reliability of the instrument was established using Pearson's Product Movement Correlation (PPMC) Technique to obtain a reliability of 0.79 which therefore means that the instrument was reliable. The questionnaire was administered by the researcher and one research assistant. Frequency count and simple percentage were the statistical tools used for the data analysis.

### Method of Data Analysis

Frequency count and simple percentage were used to analyse data.

### Result

**Research Question 1:** What is the influence of Library Facility on secondary school students' academic performance?

**Table 1: Frequency and percentage extent on the influence of Library Facility on secondary school students' academic performance in Yenagoa Educational Zone?**

S/No	Item	VHE	HE	LE	VLE
1	To what extent does conducive and functional Library enhance the educational success of secondary school students in Yenagoa Educational Zone?	60 55%	30 28%	15 14%	3 3%
2	To what extent does a well-furnished Library enhance the educational achievement of secondary school students in Yenagoa Educational Zone?	70 64.81%	25 23.15%	8 7.41%	5 4.64%
3	To what extent does a good Library with current and up to date reading materials with latest information enhance the educational success of secondary school students in Yenagoa Educational Zone?	65 60%	30 28%	10 9%	3 3%
4	To what extent does a good e-library facility boost students' confidence and academic performance in secondary schools in Yenagoa Educational Zone?	61 56.5%	30 27.8%	9 8.33%	8 7.37%
<b>Grand Percentage</b>		<b>59.07%</b>	<b>26.73%</b>	<b>9.68%</b>	<b>4.5%</b>

Table 1 shows that 60 (55%) of the participants were of the opinion that Conducive and functional Library Facility enhances the academic performance of students in Yenagoa Educational Zone to a Very High Extent, 30 (28%) were of the opinion that it enhances their educational performance to a High Extent, 15 (14%) were of the opinion that it enhances their educational attainment to a Low Extent, while 3 (3%) were of the opinion that it enhances their educational achievement to a Very Low Extent. Also 70 (64.81%) of the respondents were of the opinion that well-furnished enhances students' academic performance to a Very High Extent, 25 (23.15%) were of the opinion that it enhances their academic performance to a High Extent, 8 (7.41%) were of opinion that it enhances their educational achievement to a low Extent, while 5 (4.64%) were of the opinion that it enhance their educational achievement to a Very Low Extent. 65 (60%) of the respondents were also of the opinion that good Library with current and up to date reading materials with latest information enhances the educational performance of students in secondary schools in Yenagoa Educational Zone to a Very High Extent, 30 (28%) of the respondent were of opinion that it enhances their academic performance to High Extent, 10 (9%) were of the opinion that it enhances their educational performance to a Low Extent, while 3 (3) were of the opinion that it enhances their educational attainment to a Very Low Extent. Finally, 61 (56.5%) of the respondents were of the opinion that good e-library boost students' confidence and academic performance in Yenagoa Educational Zone to a Very High Extent, 30 (27.8) were of the opinion that it enhances their academic performance to a High Extent, 9 (8.33) were of the opinion that it enhances their educational achievement to a Low Extent, while 8 (7.37%) were of the opinion that it enhances their academic performance to a Very Low Extent.

**Research Question 2:** To what extent does school building design influence secondary school students' academic performance in Yenagoa Education?

**Table 2: Frequency and percentage extent on the influence of School building design on secondary school students' academic performance?**

S/No	Items	VHE	HE	LE	VLE
5	To what extent does Physical learning space influence students' educational achievement in secondary schools in Yenagoa Educational Zone?	65 60%	30 28%	10 9%	3 3%
6	How much does a well-designed learning environment encourage feeling, provide a sense of security, and help kids learn more effectively in secondary schools in Yenagoa Educational Zone?	80 74.07%	20 18.51%	6 5.56%	2 1.86%
7	To what extent does architectural and other features of learning space influence students' educational achievement in secondary schools in Yenagoa Educational Zone?	60% 55%	30% 28%	15% 14%	3% 3%
8	To what extent does poor acoustic, poor ventilation, insufficient lighting and chronic noise exposure influence students' educational achievement in secondary schools in Yenagoa Educational Zone?	50 46.30%	40 37%	10 9.3%	8 7.4%
<b>Grand Percentage</b>		<b>58.84%</b>	<b>29.87%</b>	<b>9.47%%</b>	<b>3.82%</b>

Table 2 reveals that 65 (60%) of the participants were of the opinion that physical learning space influences students' academic performance in Yenagoa Educational Zone to a Very High Extent, 30 (28%) were of the opinion that it enhances their academic performance to a High Extent, 10 (9%) were of the opinion that it enhances their academic performance to a Low Extents, while 3 (3%) were of the opinion that it enhances their educational success to a Very Low Extent. Also 80 (74.07%) of the respondents were of the opinion that well-designed learning environment encourage feeling of security and prepare to learn better in Yenagoa Educational Zone to a Very High Extent, 20 (18.51%) were of the opinion that it enhances their educational success to a High Extent, 6 (5.56%) were of opinion that it enhances their educational success to a low Extent, while 2 (1.86%) were of the opinion that it enhances their academic performance to a Very Low Extent. 60 (55%) of the respondents were also of the opinion that architectural and other features of learning space influence students' educational achievement in secondary schools in Yenagoa Educational Zone to a

Very High Extent, 30 (28%) of the respondent were of opinion that it influences their educational success to High Extent, 15 (14%) were of the opinion that it enhances their educational success to a Low Extent, while 3 (3) were of the opinion that it enhances their educational success to a Very Low Extent. Finally,50(46.30%) of the participants were of the view that poor acoustic, ventilation, insufficient lighting and chronic noise influences students' academic performance in Yenagoa Educational Zone to a Very High Extent, 40 (37%) were of the opinion that it influences their academic performance to a High Extent, 10 (9.3) were of the opinion that it influences their educational success to a Low Extent, while 8 (7.4%) were of the opinion that it influence their academic performance to a Very Low Extent.

**Research Question 3:** What is the influence of Science Laboratory on secondary school students' academic performance?

**Table 3: Frequency and percentage extent on the influence of Science Laboratory on secondary school students' academic performance?**

S/NO	Items	VHE	HE	LE	VLE
9	To what extent does Laboratory practical influence secondary school students' educational success in science related subjects in Yenagoa Educational Zone?	54 50%	48 44.45%	4 3.70%	2 1.85%
10	To what extent does good science Laboratory influence the performance of secondary school students' in Yenagoa Educational Zone?	68 63%	28 26%	8 7%	4 4%
11	To what extent does good Science Laboratory Technologist who assist in the process of carrying out effective science experiment influence the educational success of secondary school students' in Yenagoa Educational Zone?	61 56.5%	30 27.8%	9 8.33%	8 7.37%
12	To what extent does first- hand experience in observation and manipulation of science method influence secondary school students' academic performance in Yenagoa Educational Zone?	80 74.07%	20 18.51%	6 5.56%	2 1.86%
	Grand Percentage	60.90%	29.29%	6.14%	3.77%

Table 3 reveals that 54 (50%) of the participants were of the opinion that Laboratory practical influence secondary school students' educational success in science related subjects in Yenagoa Educational Zone to a Very High Extent, 48 (44.45%) were of the opinion that it influence their academic performance to a High Extent, 4 (3.70%) were of the opinion that it influences their academic performance to a Low Extents, while 2 (1.85%) were of the opinion that it influences their academic performance to a Very Low Extent. Also 68 (63%) of the respondents were of the opinion that good Science Laboratory influence the performance of secondary school students in Yenagoa Educational Zone to a Very High Extent, 28 (26%) were of the opinion that it influences their academic performance to a High Extent, 8 (7%) were of opinion that it influences their educational achievement to a low Extent, while 4 (4%) were of the opinion that it influences their educational achievement to a Very Low Extent. 61 (56.5%) of the respondents were also of the opinion that good Laboratory Technologist who assist in the process of carrying out effective science experiment influences students' educational achievement in secondary schools in Yenagoa Educational Zone to a Very High Extent, 30 (27.8%) of the respondent were of opinion that it influences their academic performance to High Extent, 9 (33%) were of the opinion that it influences their educational achievement to a Low Extent, while 7 (7.37) were of the opinion that it influences their academic performance to a Very Low Extent. Finally,80(74.07%) of the respondents were of the opinion that first-hand experience in observation and manipulation of science method influences students' academic performance in Yenagoa Educational Zone to a Very High Extent, 20 (81.51%) were of the opinion that it influences their educational success to a High Extent, 6 (5.56) were of the opinion that it influences their educational success to a Low Extent, while 2 (1.86%) were of the opinion that it influence their educational success to a Very Low Extent.

**Research Question 4:** What is the influence of Recreational Facilities on secondary school students' academic performance?

**Table 4: Frequency and percentage extent on the influence of Recreational Facilities on secondary school students' academic performance?**

S/NO	Items	VHE	HE	LE	VLE
13	To what extent does the availability of common rooms for students to relax and interact among themselves influence their performance in secondary school in Yenagoa Educational Zone?	52 48.15%	38 35.19%	10 9.26%	8 7.40%
14	To what extent does the availability of spacious playground for recreational activities influence secondary school students' academic performance in Yenagoa Educational Zone?	62 57.41%	25 23.15%	13 12.04%	8 7.40%
15	To what extent does the availability of cultural costumes like asoeke, beads, and calabash during cultural day to broaden students' knowledge influence secondary school students' performance in Yenagoa Educational Zone?	69 63.89%	31 28.71%	4 3.70%	4 3.70%
16	To what extent does the availability of students' park for relaxation influence students, performance in Yenagoa Educational Zone?	65 60%	30 28%	10 9%	3 3%
<b>Grand Percentage</b>		<b>57.36%</b>	<b>28.76%</b>	<b>8.5%</b>	<b>5.38%</b>

Table 4 shows that 52 (48.15%) of the respondents were of the opinion that the availability of common rooms for students to relax and interact among themselves influence the educational achievement of secondary school students in Yenagoa Educational Zone to a Very High Extent, 38 (35.19%) were of the opinion that it influence their academic performance to a High Extent, 10 (9.26%) were of the opinion that it influences their academic performance to a Low Extents, while 8 (7.40%) were of the opinion that it influences their academic performance to a Very Low Extent. Also 62 (57.41%) of the respondents were of the opinion that the availability of spacious playground for recreational activities influence the performance of secondary school students in Yenagoa Educational Zone to a Very High Extent, 25 (23.15%) were of the opinion that it influence their academic performance to a High Extent, 13(12.04%) were of opinion that it influences their educational

performance to a low Extent, while 8 (7.40%) were of the opinion that it influences their educational achievement to a Very Low Extent. 69 (63.89%) of the respondents were also of the opinion that the availability of cultural costumes like asofoke, beads and calabash during cultural day to broaden students' knowledge influences students' educational success in secondary schools in Yenagoa Educational Zone to a Very High Extent, 31 (28.71%) of the respondent were of opinion that it influences their educational success to a High Extent, 4 (3.70%) were of the opinion that it influences their educational success to a Low Extent, while 4 (3.70%) were of the opinion that it influences their academic performance to a Very Low Extent. Finally, 65(60%) of the respondents were of the opinion that the availability of students' park for relaxation influences students' academic performance in Yenagoa Educational Zone to a Very High Extent, 30 (28%) were of the opinion that it influences their educational success to a High Extent, 10 (9%) were of the opinion that it influences their educational success to a Low Extent, while 3 (3%) were of the opinion that it influence their educational success to a Very Low Extent.

### **Discussion**

The study revealed that school plant has a very big impact on the educational performance of students in Yenagoa Educational Zone. Table 1 shows that an average of 59.07% and 26.73 of the respondents were of the opinion that Library Facilities influences students' academic performance to a Very High Extent (VHE) and High Extent (HE) respectively in Yenagoa Educational Zone, while an average of 9.68% and 4.5% of the participants were of the view that it influences their performance to a low Extent (LE) and Very Low Extent (VLE). This means Library Facilities influences students' academic performance significantly and positively.

Table 2 indicates that an average of 58.84% and 29.87% of the participants believes that Building Design influence students' academic performance to a Very High Extent (VHE) and High Extent (HE) respectively in Yenagoa Educational Zone, while 9.47% and 3.82% believes that it influences their academic performance to a Low Extent and Very Low Extent. This implies that Building Design influences students' academic performance in a significant and positive way. Table 3 shows that an average of 60.90% and 29.29% of the respondent were of the opinion that Science Laboratory influences students' academic job performance in Yenagoa Educational Zone to a Very High Extent (VHE) and High Extent (HE) respectively, while 6.14 and 3.77 were of the opinion that it influences their academic performance to a Low Extent and Very Low Extent. This indicates that Science Laboratory influences their academic performance significantly and positively. Table 4 shows that an

average of 57.36% and 28.76% of the respondent were of the opinion that Recreational Facilities influences students' academic job performance in Yenagoa Educational Zone to a Very High Extent (VHE) and High Extent (HE) respectively, while 8.5% and 5.38% were of the opinion that it influences their academic performance to a Low Extent and Very Low Extent. This also indicates that Recreational Facilities influences their academic performance significantly and positively.

### **Conclusion**

This study has been able to establish that good school plant significantly and positively influence the academic performance of students' in Yenagoa Educational Zone through the provision of good functional Library Facilities, good School Building design, good Science Laboratories as well as good Recreational Facilities.

### **Recommendations**

The following suggestions were made based on the research findings:

- 1) The government and school administrators should provide public secondary schools in Yenagoa Educational Zone with good and functional Library Facilities so as to enhance students' academic performance in the Zone.
- 2) The government and school administrators should provide public secondary schools in Yenagoa Educational Zone with good Building Design so as to enhance students' academic performance in the Zone.
- 3) The government and school administrators should provide public secondary schools in Yenagoa Educational Zone with good Science Laboratories so as to enhance students' academic performance in the Zone.
- 4) The government and school administrators should provide public secondary schools in Yenagoa Educational Zone with good Recreational Facilities so as to enhance students' academic performance in the Zone.

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